

WHAT IS CLAIMED IS:

1. A display device comprising:

a charge pump control circuit comprising a thin film transistor on a substrate.

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2. A display device comprising:

a charge pump control circuit comprising a thin film transistor on a substrate;

a switching element; and

a capacitor,

10 wherein the switching element is driven correspondingly to an output signal of the charge pump control circuit to step a voltage up or down.

3. A display device according to claim 2, wherein the charge pump control circuit can vary a clock frequency to input to the switching element.

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4. A display device according to claim 3, wherein the frequency varying unit is controlled by a CPU.

20 5. A display device according to claim 4, wherein the CPU is comprised of a thin film transistor.

6. A display device comprising:

a variable frequency-dividing circuit comprising a thin film transistor; and

a CPU comprising a thin film transistor,

25 wherein the variable frequency-dividing circuit is controlled by the CPU, and wherein a dividing ratio is varied according to a display mode.

7. A display device comprising:

a switching element comprising a PIN diode.

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8. A display device according to claim 7, wherein the PIN diode is formed simultaneously with the thin film transistor.

9. A display device according to claim 1, wherein the display device is a liquid crystal
5 display device.

10. A display device according to claim 2, wherein the display device is a liquid crystal display device.

10 11. A display device according to claim 6, wherein the display device is a liquid crystal display device.

12. A display device according to claim 7, wherein the display device is a liquid crystal display device.

15 13. A display device according to claim 1, wherein the display device is an EL display device.

14. A display device according to claim 2, wherein the display device is an EL display
20 device.

15. A display device according to claim 6, wherein the display device is an EL display device.

25 16. A display device according to claim 7, wherein the display device is an EL display device.

17. A display device according to claim 1, wherein the display device is applied to an electrical equipment selected from the group consisting of a digital camera, a notebook type
30 personal computer, a PDA, a DVD playback device, a folding portable information device, a

watch type display device and a mobile phone.

18. A display device according to claim 2, wherein the display device is applied to an electrical equipment selected from the group consisting of a digital camera, a notebook type personal computer, a PDA, a DVD playback device, a folding portable information device, a watch type display device and a mobile phone.
19. A display device according to claim 6, wherein the display device is applied to an electrical equipment selected from the group consisting of a digital camera, a notebook type personal computer, a PDA, a DVD playback device, a folding portable information device, a watch type display device and a mobile phone.
20. A display device according to claim 7, wherein the display device is applied to an electrical equipment selected from the group consisting of a digital camera, a notebook type personal computer, a PDA, a DVD playback device, a folding portable information device, a watch type display device and a mobile phone.